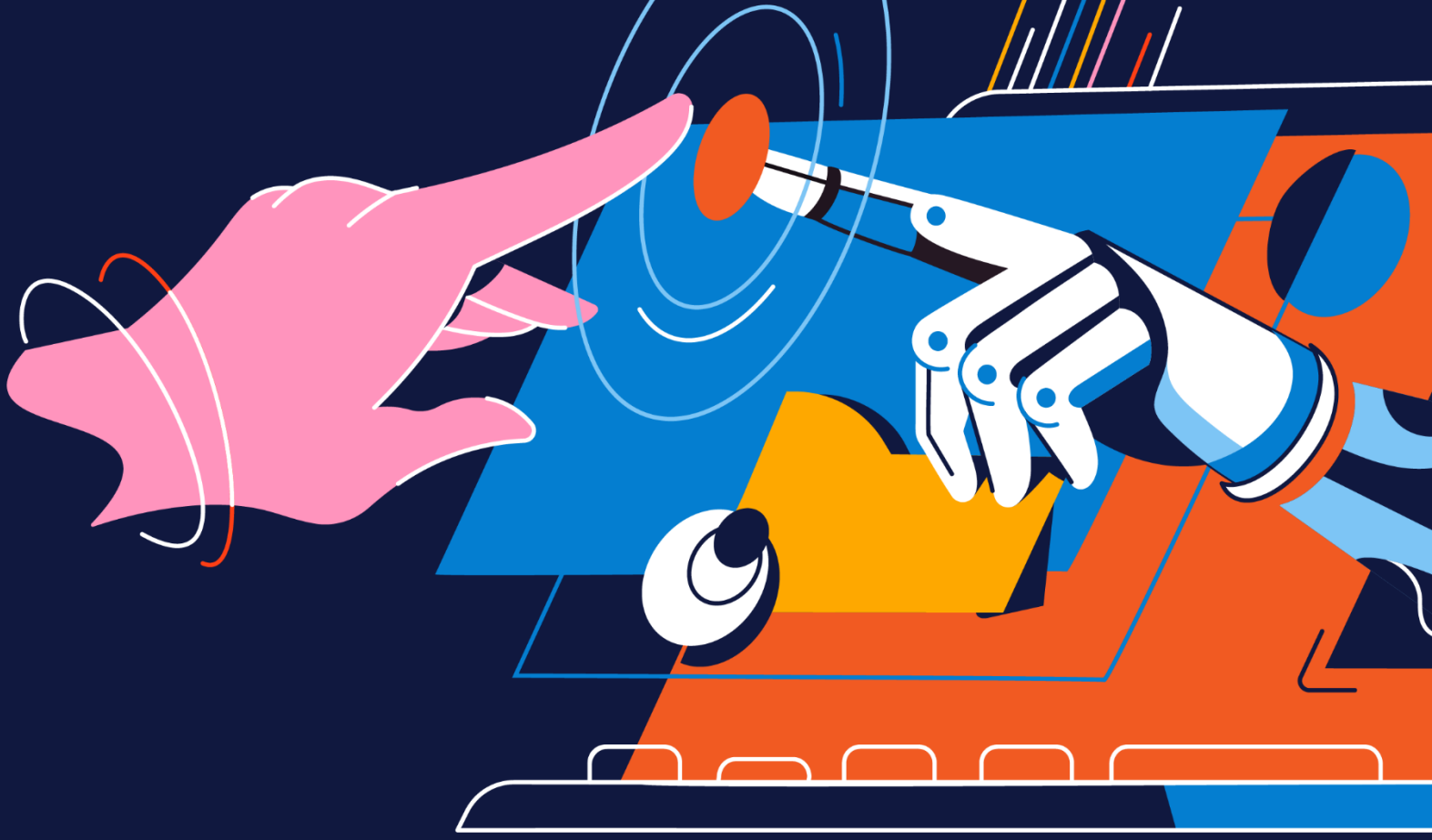

FROM IMAGINATION TO IMPLEMENTATION

Using Generative AI in Teaching, Learning, and Research

Guidelines by and for UTSA Faculty

January 2025

UTSA Academic Innovation

Welcome

Although its applications and ethical implications continuously evolve, Artificial Intelligence (AI) has quickly become a source of innovation and discovery across many fields. In Higher Education, as in other industries, we learn to adapt to a fast-evolving technology. We must also anticipate how to prepare current and future students who will encounter AI in their personal and professional lives.

With a focus on meeting student needs, supporting faculty members, and nurturing essential workforce skills, UTSA is committed to assisting and partnering with faculty to integrate AI into various aspects of teaching, learning, research, and service in alignment with their educational objectives and teaching methods.

A team of UTSA faculty and staff members, part of the UTSA AI Peer Learning Network, created this document in January of 2024 to inform and support UTSA faculty. Because AI is evolving so rapidly, these guidelines will be reviewed and refreshed annually to ensure they remain relevant and to integrate insights gained from our ongoing experience in this evolving landscape.

The following approaches and guidelines are intended as a starting point for discovery and innovation. We will continue to seek feedback to inform these guidelines based on faculty and student experiences, as well as changes in generative AI models, tools, and their public availability. Our approach reflects our commitment to fostering innovation while respecting individual choices.

Visit UTSA's Generative AI page or email AcademicInnovation@utsa.edu for more information and to share your feedback and ideas. Please complete the survey at the end of this resource to share your comments.

Using Generative AI

As faculty evaluate whether generative AI has a place in their curricula, we encourage them to explore various generative AI tools' potential benefits and shortcomings to see how they align with and advance the faculty's learning objectives.

Human-Centered Approach

At UTSA, we emphasize a human-centered approach to integrating generative AI in teaching and learning, focusing on student growth, ethical responsibility, and meaningful engagement. Our goal is to help students become informed, responsible citizens who can thoughtfully navigate the opportunities and challenges of generative AI. By fostering open dialogue and promoting transparency, we encourage students to reflect on the ethical implications of AI use, both in their academic work and beyond. This approach ensures that students not only benefit from the college experience but also develop critical thinking skills, ethical awareness, and a sense of accountability, preparing them to engage responsibly with AI in their personal, academic, and professional lives.

How can I use Generative AI?

- Enhance the learning experience by providing personalized and interactive content tailored to individual learning styles and needs.
- Increase efficiency and productivity by saving time on administrative tasks such as emails, course announcements, etc., allowing educators to focus on engaging with students and designing effective learning strategies.
- Foster new forms of creative and critical thinking as well as problem-solving skills using AI tools.

Cont. in the next column

- Create content in different formats to meet the needs of all learners.
- Create rubrics, assessment questions, and learning objectives.
- Provide students with constructive, formative feedback on their work. Generative AI can help identify areas for improvement, suggest ways to strengthen arguments, or enhance writing clarity, fostering a more iterative and reflective learning process.
- Prompt self-reflection, encouraging students to critically evaluate their use of AI and its impact on their learning outcomes.
- Promote critical thinking, guiding students to analyze, question, and assess information generated by AI to develop deeper understanding.

To model best practices for your students, always disclose your approach to AI integration, the factors considered when evaluating AI-generated

content, and your rationale for adopting it.

Information Literacy, Data Privacy & Generative AI

It is critical to educate your students about data privacy and the potential risks associated with sharing personal information or sensitive data.

AI is a tool to enhance, not replace, the educator's role in facilitating meaningful learning experiences. Use AI to complement teaching methods, emphasizing the development of creative, analytical, and problem-solving skills.

Students should use caution when using AI platforms and embrace a continuous learning mindset to make informed decisions.

Suggest your students use AI-enabled search engines to help find the underlying sources of their AI responses. To educate students to develop critical information literacy, they must provide a secondary citation to verify their AI response's content and correctly attribute it.

Demonstrate how to check AI responses for bias with sample artifacts.

Campus-Wide Licenses

Faculty, staff and students can use the Microsoft CoPilot license to get started with generative AI. This is the only UTSA-approved AI tool because it offers the power of GPT-4 (a powerful AI large language model) with Microsoft's stringent commercial data protection— meaning that although institutional data may be used to generate prompts, responses and data are not used to train foundational LLMs.

Users should be careful to avoid sharing private data to any LLM.

As part of the Adobe Creative Cloud Campus, faculty, staff and students can also use the generative AI features enabled in apps such as Adobe Creative Express and Adobe Firefly.

AI and Digital Accessibility

Embracing a Universal Design for Learning (UDL) approach, we recognize the transformative potential of AI in enhancing digital accessibility within education. AI-driven tools can adapt educational content to diverse learner needs, ensuring that all students can engage with materials effectively. For instance, AI can generate alternative text for images, aiding visually impaired students, or provide real-time captioning for audio materials, supporting those with hearing impairments. Additionally, AI can personalize learning experiences by analyzing individual student interactions, allowing for tailored support that aligns with their specific needs and preferences.

Share With Your Students:

- Add AI and Data Privacy to your syllabus and course homepage.
- Review the sign-on and data privacy policies for the various AI platforms available and read the privacy agreements and guidelines carefully.
- If the generative AI platform offers two-factor authentication (2FA), enable this option to add an extra layer of security to your account.
- Use generic or fictional data when generating content to prevent the exposure of personal or sensitive information while still exploring the capabilities of generative AI.
- Clear your browser cache and cookies regularly to minimize the collection of browsing history and online activity.

Getting Started with Generative AI

If you incorporate AI in your teaching strategy, foster an open dialogue with your students and encourage them to share any questions or concerns.

Review faculty resources

Consider collaborating with the division of Academic Innovation to analyze and measure the impact of AI on your students' learning. This brief article on leveraging data for student success and retention using AI-powered tools provides a good starting point.

Please visit the UTSA Generative AI in Teaching and Learning site or book a consultation with the Teaching, Learning and Digital Transformation team to explore resources, teaching practices, and methodologies to measure the impact of AI: Consultations for Teaching and Learning Experiences Bookings.

Set student expectations

Faculty are responsible for their syllabus and courses. Because faculty may choose different approaches for generative AI, clearly state in the syllabus and the course homepage whether and how you are allowing the use of AI. You always have control over your course, and you may choose to not use generative AI for your course. Examples of these statements include:

a) Use of generative AI is encouraged to complete assignments;

b) Use of generative AI is authorized only as a virtual learning assistant;

c) Use of generative AI is not authorized.

AI Detection Tools and Recommendations

AI detection tools, designed to identify the use of artificial intelligence in student work, operate using algorithms that analyze patterns and language structures. However, as AI-generated content continues to evolve, these tools are inherently imperfect and prone to false positives and false negatives. Relying solely on detection tools can lead to inaccuracies and potential misunderstandings. To uphold academic integrity, we emphasize following the established processes and guidelines outlined in the university's code of conduct. This ensures a fair and consistent approach to addressing concerns, relying on evidence-based evaluations and open communication with students rather than depending solely on AI detection results.

As a result, we recommend:

- Giving students the option to demonstrate their knowledge in ways that do not encourage AI use.
- Deepening your digital and AI literacy skills by reviewing the resources on the TLDT Generative AI site.
- Creating assignments that encourage students to demonstrate higher-level thinking that AI cannot generate, such as reflections and experiential activities.
- Teaching students to use generative AI as a tool for deeper learning.
- Sharing UTSA policies regarding academic integrity and conduct with students.
- Setting expectations with students about the use of AI in your course.

Citing Generative AI

We recommend that students attribute and properly cite generative AI when it is used for text or images. Refer to the APA guidelines for proper citation and attribution:

- Citing ChatGPT in APA style
- Citing generative AI in MLA style

Expectations for Teaching Assistants and Graders

Clarify the expectations for TAs and Graders regarding the use of AI, emphasizing the importance of academic integrity and the ramifications of improper AI use.

Provide rubrics and include simulations in use cases to show how to demonstrate learning without relying on AI. Provide examples of activities and assignments that do not promote AI use, or that promote an ethical use of AI.

Academic Conduct Resources

- UTSA Office of the Dean of Students
- UTSA Conduct and Community Standards
- UTSA Copyright and Fair Use Guidelines
- Vanderbilt AI Detection Guidance
- Carnegie Mellon University Examples of possible academic integrity policies that address student use of generative AI tools

Balancing Generative AI Integration and Academic Integrity in Teaching

It is crucial to strike a balance that upholds academic integrity while harnessing the benefits of technology when navigating the integration of AI into the learning process.

While well-designed assignments are essential, there are various strategies to ensure a holistic approach. Faculty members should take into account traditional results, like grades, test scores, and persistence and graduation outcomes, but also measure the development of foundational skills. One key aspect is clearly defining academic integrity expectations and designing assignments with specific learning objectives. Beyond this, integrating AI as a supplement to teaching rather than as a substitute is crucial.

Crafting assignments to discourage shortcut solutions, promoting discussions on ethical AI use, providing alternative assessments, and incorporating technology literacy into course content all contribute to a multifaceted approach. Additionally, faculty members should provide clear expectations and rationale for when AI might not be the optimal choice for certain assessments or is not allowed.

This broader strategy ensures that AI serves as a valuable tool for learning, complementing students' efforts without overshadowing the critical thinking, writing, and analytical skills essential for lifelong success.

Syllabus Guidelines

Faculty should incorporate a statement in their syllabi that reflects how they expect students to use AI in their course. Faculty can:

- Encourage all students to fully embrace the use of generative AI to help with assignments in the course.
- Allow the use of generative AI only in certain circumstances, activities or assignments in the course as set out in the syllabus and assignment instructions.
- Not allow students to use generative AI in any form in the course.

For sample language to use in their syllabi, faculty can visit our Sample Syllabus Statements for Student Use of Generative Artificial Intelligence in Coursework.

Design Assessment Strategies

- Clearly define academic integrity expectations and design assignments with specific learning objectives that discourage shortcut solutions.
- Integrate AI as a supplement to teaching rather than a substitute. Encourage critical thinking, writing, and analytical skills essential for lifelong success. Provide clear expectations and rationale for when AI might not be the optimal choice for certain assessments or is not allowed.
- Assignments can encourage transparency by asking students to document how they used AI tools, what specific prompts or inputs they provided, and how the outputs were refined or integrated into their work.
- Promote discussions on ethical AI use and provide alternative assessments. Incorporate reflective components where students analyze the ethical implications of AI use in their field, such as issues related to bias, intellectual property, or decision-making.

If a student has ethical concerns about using generative AI tools, particularly if they are required to create an account with a tool that is not an institutionally approved resource, work with them to identify alternative ways to engage with the assignment. For example:

- Conducting manual or traditional research instead of using AI for ideation or content generation.
- Partner with classmates who are comfortable using AI tools (if collaborative work is allowed).
- Using public domain or open-access resources instead of proprietary AI tools.

Leveraging AI to Support Classroom to Career

As educators, we are preparing our students to live and work in a society where human-machine collaboration will likely become the status quo. The "Future of Jobs Report 2023" states that demand for AI and Machine Learning Specialists is expected to grow by 40%, or by 1 million jobs, as AI and machine learning drive continuous industry transformation.

We can help our students foster familiarity and proficiency with generative AI platforms and help them turn those skills into a marketable advantage. It will be imperative that students know and understand how AI tools can be used in their chosen career field.

In addition, VMock UTSA SMART Career Preparation Platform is a resource that students can use to submit their resume and receive feedback within a few minutes. They can also prepare for future jobs and practice interviewing skills.

Research Considerations with Generative AI

Developing manuscripts and grant applications using AI:

- Authors must be transparent to the journal and the paper's co-authors in disclosing the use of generative AI tools for creating any portion of the work.
- Authors are responsible for checking the accuracy of the AI-generated outputs and should carefully edit any incorrect, incomplete, or biased content.
- Generative AI can help create outlines or summaries within the limitations described in the two above points.
- The use of generative AI tools for writing manuscripts or grant proposals may be prohibited in many cases. Check the specific journal or grant application requirements before using any AI tool.
- Never upload your grant application (novel idea) into any AI tool as then it will be in the public domain and accessible by others.

AI and Peer Reviews

Researchers should always check with the sponsoring agency regarding their policies and normal expectations for preparing reviews. For example, the National Institutes of Health (NIH) has prohibited scientific peer reviewers from employing natural language processors, large language models, or other generative Artificial Intelligence (AI) technologies to analyze and create peer reviews for grant applications and R&D contract proposals.

This limitation is in place due to concerns about maintaining confidentiality, as these AI tools lack guarantees regarding the handling, storage, access, and future use of data. Using AI tools for composing critiques or improving grammar and syntax is also regarded as a breach of confidentiality.

Resources

- Responsible use of Generative Artificial Intelligence in Research: Key Principles to Guide Institutional and Investigator Behavior
- Generative AI in Academic Research: Perspectives and Cultural Norms

Opportunities for Faculty Professional Development

Academic Innovation has created a fully online self-paced course to introduce faculty to generative AI and create a peer learning community to discuss teaching and research strategies, challenges, and student opportunities. To access the Canvas course or join the peer learning network, visit the TLDT Generative AI site or contact AcademicInnovation@utsa.edu.